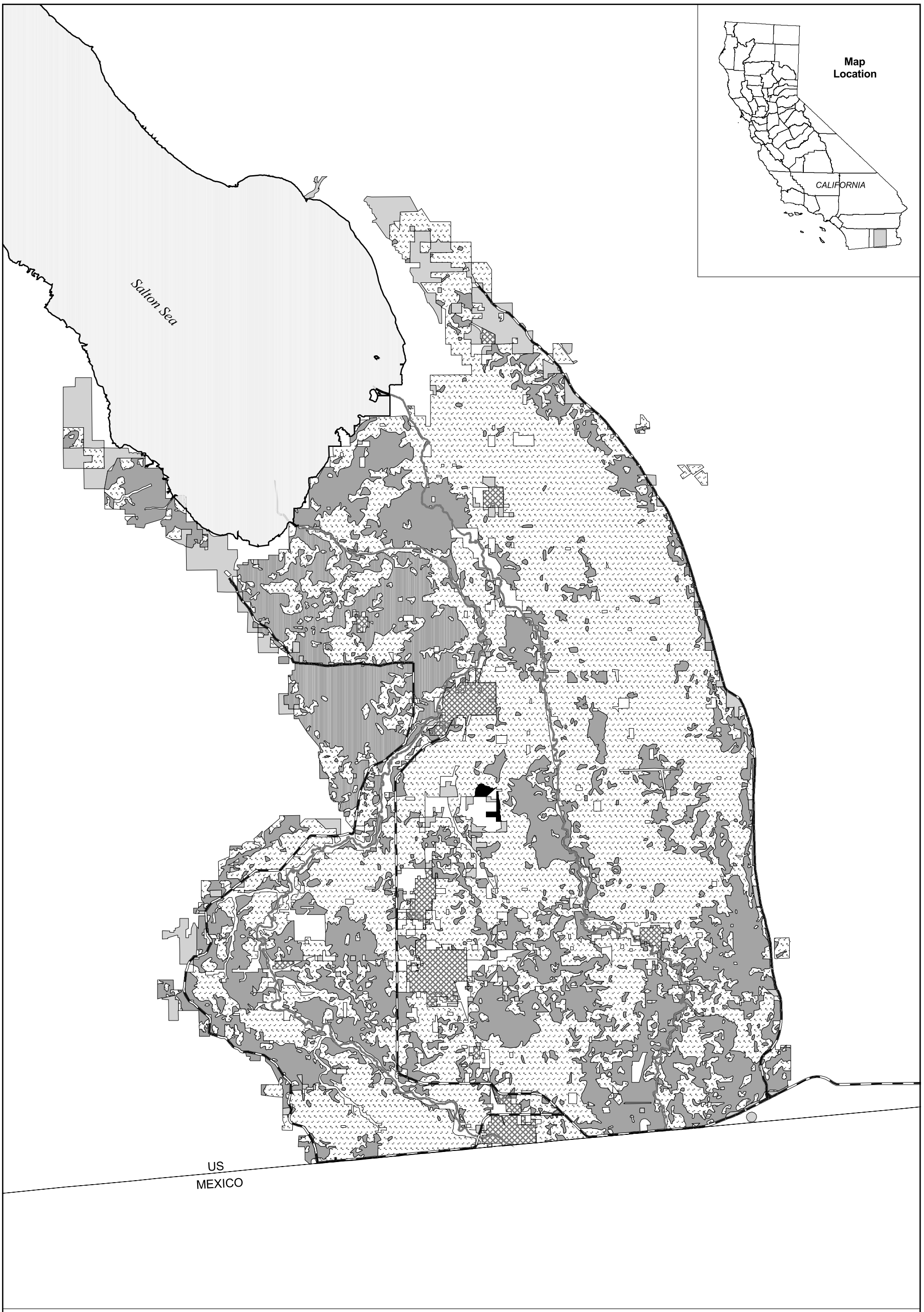



**Figure 3.5-2**
**IID Water Service Area Farmlands**
**IID Water Conservation and Transfer Project Final EIR/EIS**

**Prime Farmland.** Prime farmland represents the best combination of physical attributes leading to the production of agricultural commodities. Such land is characterized by the combination of favorable soil, geographic and climatic characteristics, and a reliable water supply to sustain long-term, high-yield agricultural production. For classification as prime farmland, the area must have been used in irrigated production at some time during the past 4 years.

**Farmland of Statewide Importance.** Farmland of statewide importance has characteristics similar to prime farmland; however, it is not of the highest quality. For instance, soils could have a slightly lower capacity for holding water or greater slope.

**Unique Farmland.** Unique farmland does not meet the qualifications for classification as prime or statewide importance; however, it is used in the production of high-value crops.

**Farmland of Local Importance.** A local advisory committee in Imperial County, which is generally composed of local agricultural and business interests, environmental groups, city and county planners, NRCS representatives, and university cooperative extension staff, provides recommendations to the Imperial County Board of Supervisors regarding farmlands to be designated as locally important. The Imperial County Board of Supervisors has the authority to adopt, or make changes to, farmlands of local importance within the county. Farmland of local importance does not meet the qualifications for designation as unique according to FMMP standards; however, these lands have been identified by the local advisory committee as economically important because of their productivity or value.

## AGRICULTURAL PRODUCTION

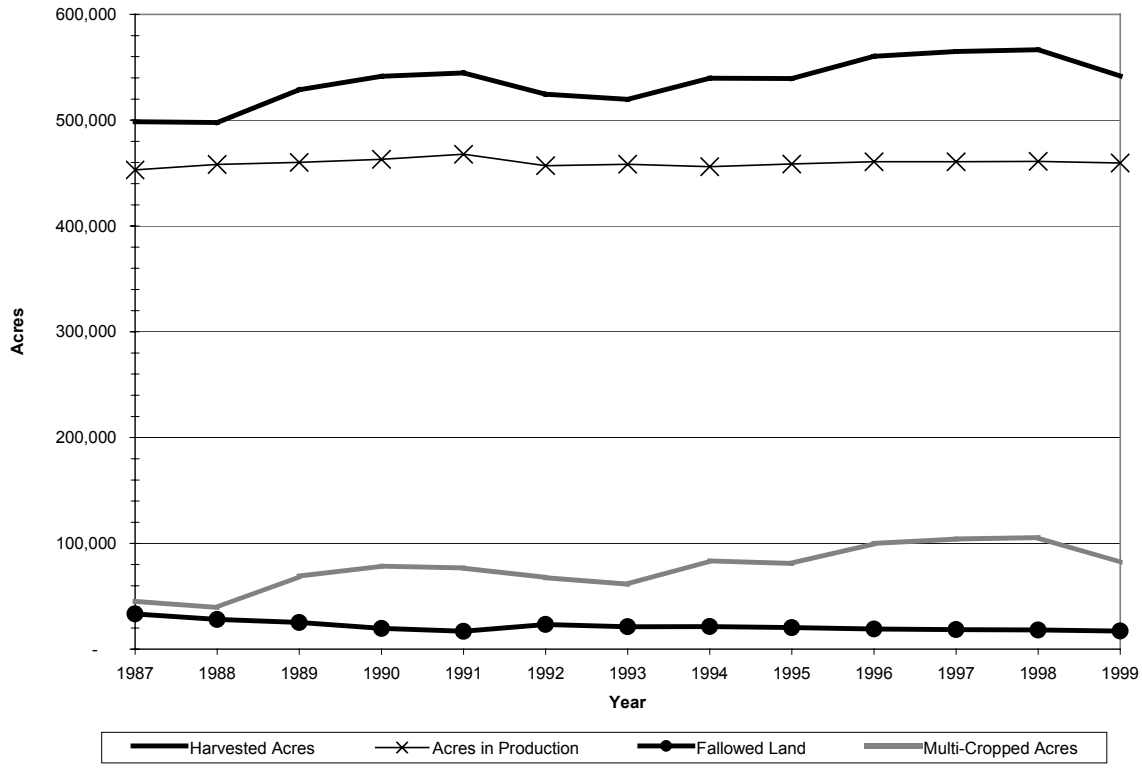
From 1987 to 1999, the net farmable area within the IID water service area remained fairly constant. at approximately 484,000 acres. Of this total area, each year, on average, 20,000 farmable acres are left out of production (i.e., fallowed) and 2,000 acres leached of salts, leaving an annual net area in agricultural production of approximately 460,000 acres. Over the past 10 years, there has been a slight increase in harvested acres. The increase appears to be the result of an increase in the number of acres that are multi-cropped. This results in a total annual harvested acreage of 160 acres from a single 80-acre field. As a result of multi-cropping, the average harvested acreage in the IID water service area is consistently greater than the net acreage in production.

During 1987 to 1999, harvested acres averaged approximately 536,000 acres, while the total area in production averaged 460,000 acres. Figure 3.5-3 shows how total harvested acres, net acres farmed, and fallowed acres varied from 1987 to 1999.

Within Imperial County, the mix of crops remained relatively constant from 1987 to 1999, particularly when crops were reported as aggregate groups. IID groups the crops grown in the IID water service area into one of three crop groups: garden crops, field crops, or permanent crops.

Permanent crops are those crops, such as tree fruits, that are planted once and then grown and harvested over multiple years. Garden and field crops are generally planted during each growing season. The wide variety of fruits and vegetables grown in the IID water service area are generally categorized as garden crops. Field crops include an assortment of other crops, such as alfalfa hay, cotton, and sugar beets.

**FIGURE 3.5-3**
**Comparison of the Use of Farmland in the IID Water Service Area, 1987-1999**

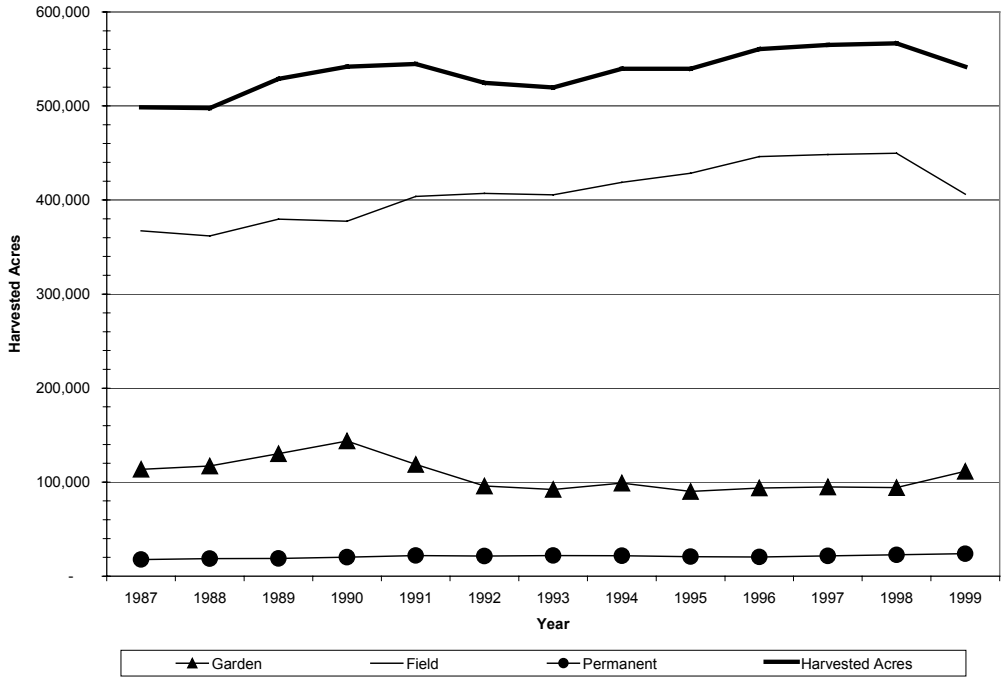



Source: IID 1987- 1999

Figure 3.5-4 presents the harvested acreage by crop group from 1987 to 1999. With the exception of permanent crops for which substantial amounts of time and money are invested to establish productive stands, farmers base their cropping decisions on short-term, anticipated market conditions.

Table 3.5-3 shows the total acres harvested and value of production by crop classification for 1998, along with the predominant crops within each classification. Consistent with the historical data presented above, harvested acreage reported by Reclamation shows field crops as the largest crop group within the IID water service area, accounting for approximately 408,000 acres. A large portion of the field crop acreage is devoted to alfalfa hay, which helps support Imperial County's livestock industry. The next largest Reclamation crop classification, in terms of acreage, is vegetables, with just under 100,000 acres harvested in the IID water service area. In terms of gross value of production, vegetables are the dominant crop classification, with an average of $478 million, compared to $270 million for field crops.

**FIGURE 3.5-4**
**Harvested Acres by Crop Group in the IID Water Service Area, 1987-1999**




Source: IID 1987- 1999

**TABLE 3.5-3**
Acreage and Value of Production by Crop Groups in the IID Water Service Area, 1998

| Crop Group | Harvested Acres | Gross Value of Production (Millions of Dollars) | Predominant Crops |
|---|---|---|---|
| Field Crops | 408,432 | $270.7 | Alfalfa hay, other hay (sudan grass), wheat, sugar beets |
| Vegetable and Nursery | 97,120 | $478.4 | Lettuce, carrots, melons, onion, broccoli, asparagus |
| Seed | 44,726 | $44.0 | Grass, alfalfa, onion |
| Fruits and Nuts | 5,984 | $22.9 | Citrus, other fruits, dates, pecans |
| **Total** | **556,262** | **$815.6** | |

Source: Reclamation 1998

## IRRIGATION PRACTICES

Gravity irrigation methods, such as furrow and border irrigation, account for the vast majority of irrigation application methods within the IID water service area. Recently, a few farmers have switched to level basin irrigation, and some farms have installed tailwater return systems (TRSs). Sprinkler irrigation is sometimes used in conjunction with gravity

irrigation methods, in which seedbeds are irrigated by sprinklers until germination. At that point, a transition to furrow or border irrigation occurs.

Other than for seed germination, sprinkler technologies, such as linear move, center pivot, or solid set, are seldom used within the IID water service area. Reasons for this include the need to pressurize the water supply, and the incompatibility of some sprinkler systems with the area's predominately clay soils. Drip irrigation is used on a limited basis, generally on permanent or highly valued crops. Because of the salinity levels of the soil and the irrigation water under all irrigation technologies, fields generally require irrigation applications in excess of crop production needs to leach salts out of the root zone.

## 3.5.4 Impacts and Mitigation Measures

### 3.5.4.1 Methodology

The conservation program would be voluntary and, as such, the exact location of participating fields and the type of actual conservation measures employed could not be accurately predicted for this analysis. The alternatives were formulated to provide a range of different conservation volumes and conservation methods and thus to allow the assessment of a range of possible impacts.

Depending on the location of specific improvements, the construction of on-farm or water delivery system improvements could convert lands within the IID water service area that historically have been in crop production to reservoirs, canals or other uses in support of on-farm irrigation system improvements or water delivery system improvements. Such changes in land use would not result in a classification change from agricultural to something other than agricultural. The changes would, therefore, not result in an impact to agricultural resources.

If fallowing were implemented as a conservation measure, land would be taken out of crop production on a rotational or on a non-rotational basis. For the purpose of this EIR/EIS, two categories of fallowing are defined: rotational fallowing and non-rotational fallowing.

Rotational fallowing is defined as keeping land out of agricultural production for less than four years. Non-rotational fallowing is defined as any fallowing where agricultural land is kept out of production for four years or more. Conserving water by non-rotational fallowing could result in, or increase the probability of, agricultural land being converted to something other than agricultural production. To a great extent, the likelihood of fallowed land being converted to urban land use or other non-agricultural land uses would depend on the land's location and length of time it remains fallowed. Lands close to the boundaries of lands currently zoned for urban uses would have a higher probability of converting to non-agricultural land uses. Additionally, lands fallowed for extended periods of time would have a higher probability of being converted to something other than agricultural land use in part because of the cost off reclaiming crop lands that have not been cultivated or irrigated for extended periods. While proximity to urban land used or extended fallowing could make fallowed lands more attractive to development, conversion to a non-agricultural land use would require local approval of the change in zoning and is not part of the Proposed Project. Non-rotational fallowing would also be inconsistent with the classification of Prime farmland and other classified farmland categories as defined for FMMP. Since the majority of the farmland within the IID water service area is classified as one of the FMMP

categories, the conservative assumption is made that any non-rotational fallowing would result in a reclassification under the FMMP and would therefore be a significant impact to agricultural resources.

IID has indicated that there is the possibility that a fallowing program to conserve water for transfer could be implemented that would include non-rotational fallowing of crop lands, and that fallowing for mitigation and or to conserve water to meet IOP obligations would be limited to rotational fallowing. To identify the maximum potential impact to agricultural resources from the Proposed Project and Alternatives, the analysis assumes the worst-case scenario, which would entail non-rotational fallowing. To determine the maximum amount of impacted acreage for a voluntary program such as the Proposed Project, an average level of conservation (i.e., amount of water conserved) per fallowed acre is used. The per-acre conservation rate used in this analysis is 6 AF per fallowed acre.

The analysis of agricultural resources included the review of standards, regulations, and plans applicable to agricultural resources in the IID water service area. The potential for the Proposed Project and Alternatives to result in changes to land use patterns of categorized and other farmland was evaluated to identify impacts.

**Subregions Excluded from Impact Analysis.** The Proposed Project and Alternatives would not result in impacts to agricultural resources in either the Salton Sea subregion or the SDCWA subregion. Therefore, these subregions are not included in the impact discussion below.

### 3.5.4.2 Significance Criteria

The Proposed Project and/or Alternatives would have a significant impact on agricultural resources if they

- Convert prime farmland, unique farmland, or farmland of statewide importance (farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency to non-agricultural use.
- Conflict with existing zoning for agricultural use or a Williamson Act contract.
- Involve other changes in the existing environment, which, because of their location or nature, could individually or cumulatively result in substantial loss of farmland to non-agricultural use.

### 3.5.4.3 Proposed Project

#### LOWER COLORADO RIVER

#### Water Conservation and Transfer

With the exception of the actions listed below under "Biological Conservation Measures in USFWS' Biological Opinion," none of the actions associated with the conservation and transfer of water will have any direct or indirect impact on the agricultural resources of the LCR geographic subregion.

#### Biological Conservation Measures in USFWS' Biological Opinion

Biological conservation measures would only have the potential to affect agricultural lands that are adjacent to the Colorado River mainstem. If the creation of backwaters or

cottonwood-willow habitat occurred on Prime or Unique Farmland or Farmland of Statewide Importance, this would result in the removal of this land from agricultural production. The acreage proposed for habitat restoration is relatively small (up to 1,116 acres) as is the amount proposed for backwater creation (44 acres) and would not result in substantial reduction in agricultural production within California, Arizona, or Nevada. Williamson Act contract lands may also be affected. No lands would be converted to urban use (Reclamation 2002).

These impacts are addressed at a general level in the Draft IA EIS because specific areas where these conservation measures would occur have not been identified. Site-specific studies and subsequent environmental documentation would be conducted as needed and mitigation measures identified prior to the actual implementation of the conservation measures.

*Impacts resulting from the implementation of the biological conservation measures in USFWS' Biological Opinion would be the same for Alternatives 2, 3, and 4; therefore, they are not discussed under each Alternative.*

## IID WATER SERVICE AREA AND AAC

### Water Conservation and Transfer

**Impact AR-1: Reclassification of up to 50,000 acres of prime farmland or farmland of statewide importance.** With implementation of the Proposed Project, up to a total of 300 KAFY could be conserved for transfer through one or more conservation measures, including fallowing. If fallowing were used as a conservation measure, it could be either rotational fallowing or non-rotational fallowing or a combination of the two. Rotational fallowing would be consistent with planned land uses and would not result in the reclassification of any prime or statewide important farmlands; therefore, no impact to agricultural resources would occur. However, non-rotational fallowing of agricultural land could be used to conserve water for transfer; therefore, the worst case impact of the Proposed Project would be the non-rotational fallowing of up to about 50,000 acres of land. This represents up to about 11 percent of the total net acreage in agricultural production within the IID water service area. Assuming all acreage included in the water conservation program was fallowed on a non-rotational basis, this would represent a significant, unavoidable impact to the agriculture resources of the IID water service area. (Significant, unavoidable impact.)

**Mitigation Measure AR-1:** The only way to avoid or minimize this impact is to prohibit the use of non-rotational fallowing under the Proposed Project. Otherwise, no mitigation measures have been proposed to avoid or minimize this impact.

### Inadvertent Overrun and Payback Policy (IOP)

To conserve 59 KAFY to comply with the IOP, up to 9,800 acres could be fallowed in the IID water service area. This would represent 2 percent of the total annual net acreage in agricultural production within the IID water service area. IID has indicated that if fallowing were to be used to conserve water for the IOP, it would be rotational fallowing, whereby lands are kept out of production for less than four consecutive years. Implemented under these conditions, fallowing would not result in the reclassification of prime or statewide important farmland or conflict with existing zoning.

*These impacts resulting from the implementation of the IOP would be the same for Alternatives 2, 3, and 4; therefore, they are not discussed under each Alternative.*

### Habitat Conservation Plan (HCP-IID) (IID Water Service Area Portion)

**Impact HCP-IID-AR-2 Conversion of 700 Acres of Agricultural Lands from Implementation of the HCP (IID Water Service Area Portion).** The Proposed HCP includes provisions for creating new drainage canals, managed marsh habitat, and native forest habitat. These activities could potentially involve up to approximately 700 acres for the term of the Project. For this analysis, the worst case has been assessed by assuming that the approximately 700 acres of drains and wildlife habitat would be located on agricultural lands.

The worst -case impacts to agricultural resources from the implementation of these components of the Proposed HCP would result in approximately 700 acres of agricultural lands converted to marsh habitat, native forest habitat, or new drainage channels to the Salton Sea. This represents less than 0.5 percent of the average annual net acreage in agricultural production within the IID water service area. However, if these lands are located on prime farmland or farmland of statewide importance, implementation of the HCP (IID Water Service Area Portion) would result in a significant, unavoidable impact to agricultural resources. (Significant, unavoidable impact.)

**Mitigation Measure HCP-IID-AR-2:** The only way to avoid or minimize this impact is to prohibit the use of non-rotational fallowing under the HCP (IID Water Service Area Portion). Otherwise, no mitigation measures have been proposed to avoid or minimize this impact.

*Impacts resulting from the implementation of the IID (Water Service Area Portion) of the HCP would be the same for Alternatives 2, 3, and 4; therefore they are not discussed under those Alternatives.*

### Salton Sea Habitat Conservation Strategy (HCP-SS)

**Impact HCP-SS-AR-3: Conversion of 30,500 Acres of Agricultural Lands from Implementation of the Salton Sea Habitat Conservation Strategy.** If fallowing within the IID water service area is used as the sole method of providing mitigation water to the Sea, implementation of the Salton Sea Habitat Conservation Strategy under the Proposed Project could result in the fallowing of up to 30,500 acres of agricultural lands within the IID water service area. This would represent approximately 17 percent of the net acres in production in the IID water service area. Fallowing to conserve water for mitigation would be limited to rotational fallowing where lands are fallowed for fewer than four consecutive years. Implemented under these conditions, fallowing would not convert farmland or lead to the rezoning of agricultural lands to non-agricultural uses. (Less than significant impact.)

As noted in Section 2.2.6.7, the implementation of the Salton Sea Habitat Conservation Strategy in concert with the on-farm irrigation system improvement approach to conserving water for transfer was determined not to be feasible because of the number of total acres that would be needed. This is because the "efficiency conservation" measures require a 1 to 1 ratio of mitigation water to the Sea. Therefore, the combination of only on-farm and/or delivery system efficiency conservation measures required to produce 300 KAFY for transfer plus fallowing within the IID water service area as the sole method of providing the

mitigation water associated with the Salton Sea Habitat Conservation Strategy has not been assessed in this final EIR/EIS.

#### 3.5.4.4 Alternative 1: No Project

Implementation of the No Project Alternative would maintain existing agricultural conditions in the geographic subregions discussed in this analysis, including the average amount of fallowing in the IID water service area of approximately 20,000 acres per year.

#### 3.5.4.5 Alternative 2 (A2): Water Conservation and Transfer of 130 KAFY to SDCWA (On-farm Irrigation System Improvements as Exclusive Conservation Measure)

### LOWER COLORADO RIVER

#### Water Conservation and Transfer

With the exception of the actions listed under "Biological Conservation Measures in USFWS' Biological Opinion," none of the actions associated with the conservation and transfer of water will have any direct or indirect impact on the agricultural resources of the LCR geographic subregion.

### IID WATER SERVICE AREA AND AAC

#### Water Conservation and Transfer

Implementation of on-farm irrigation system improvements to conserve water would not result in the conversion of agricultural lands to other uses, conflict with existing agricultural zoning or result in the reclassification of prime or statewide important farmland. Therefore, there would not be any impact to the agricultural resources in the IID water service area.

#### Salton Sea Habitat Conservation Strategy (HCP-SS)

**Impact A2-HCP-SS-AR-1: Conversion of 40,600 acres of agricultural lands from implementation of the Salton Sea Habitat Conservation Strategy.** Mitigation water for the Salton Sea Habitat Conservation Strategy could be generated via fallowing within the IID water service area, but other sources of water could be used as described in Section 2.2.6.7.

If fallowing within the IID water service area is used as the sole method of providing mitigation water, implementation of the Salton Sea Habitat Conservation Strategy under Alternative 2 could result in the fallowing of up to 40,600 acres of agricultural lands within the IID water service area. This would represent approximately 8 percent of the net acres in production in the IID water service area. Fallowing to conserve water for mitigation would be limited to rotational fallowing where lands are fallowed for fewer than four consecutive years. Implemented under these conditions, fallowing would not convert farmland or lead to the rezoning of agricultural lands to nonagricultural uses. (Less than significant impact.)

### 3.5.4.6 Alternative 3 (A3): Water Conservation and Transfer of Up to 230 KAFY to SDCWA, CVWD, and/or MWD (All Conservation Measures)

#### LOWER COLORADO RIVER

##### Water Conservation and Transfer

With the exception of the actions listed under "Biological Conservation Measures in USFWS' Biological Opinion," none of the actions associated with the conservation and transfer of water will have any direct or indirect impact on the agricultural resources of the LCR geographic subregion.

#### IID WATER SERVICE AREA AND AAC

##### Water Conservation and Transfer

**Impact A3-AR-1: Reclassification of up to 38,300 acres of prime farmland or farmland of statewide importance.** Alternative 3 includes the conservation of up to 230 KAFY for transfer through one or more conservation measures, including fallowing. If fallowing were used as a conservation measure, it could be either rotational fallowing, non-rotational fallowing, or a combination of the two. Rotational fallowing would be consistent with existing land uses and would not result in the reclassification of any prime or statewide important farmlands; therefore, no impacts to agriculture resources would occur. However, non-rotational fallowing could be used to conserve water for transfer; therefore, the worst-case impact of the Alternative 3 would be to fallow up to 38,300 acres of land on a non-rotational basis. This represents up to 8 percent of the total net acreage in agricultural production within the IID water service area. Assuming all acreage was non-rotationally fallowed, this would represent a significant, unavoidable impact to the agriculture resources in the IID water service area. (Significant, unavoidable impact.)

**Mitigation Measure A3-AR-1:** The only way to avoid or minimize this impact is to prohibit the use of non-rotational fallowing under this Alternative. Otherwise, no mitigation measures have been proposed to avoid or minimize this impact.

##### Salton Sea Habitat Conservation Strategy (HCP-SS)

**Impact A3-HCP-SS-AR-2: Conversion of up to 67,300 acres of agricultural lands from implementation of the Salton Sea Habitat Conservation Strategy.** Implementation of the Salton Sea Habitat Conservation Strategy under Alternative 3 could result in the fallowing of up to 67,300 acres of agricultural lands within the IID water service area if fallowing within the IID water service area is used as the sole method of providing mitigation water and if system and/or on-farm irrigation improvements are used to generate water for transfer. This would represent approximately 13 percent of the net acres in production in the IID water service area. If fallowing is used to conserve water for transfer (requiring 38,300 acres), then 25,100 acres would be required to be fallowed in the IID water service area to meet the obligations of the Salton Sea Habitat Conservation Strategy. Fallowing to conserve water for mitigation would be limited to rotational fallowing where lands are fallowed for fewer than four consecutive years. Implemented under these conditions, fallowing would not convert farmland or lead to the rezoning of agricultural lands to nonagricultural uses. (Less than significant impact.)

### 3.5.4.7 Alternative 4: Water Conservation and Transfer of Up to 300 KAFY to SDCWA, CVWD, and/or MWD (Fallowing As Exclusive Conservation Measure)

#### LOWER COLORADO RIVER

##### Water Conservation and Transfer

With the exception of the actions listed under "Biological Conservation Measures in USFWS' Biological Opinion," none of the actions associated with the conservation and transfer of water will have any direct or indirect impact on the agricultural resources of the LCR geographic subregion.

#### IID WATER SERVICE AREA AND AAC

##### Water Conservation and Transfer

**Impact A4-AR-1: Reclassification of up to 50,000 acres of prime farmland or farmland of statewide importance.** Alternative 4 includes conservation of up to 300 KAFY for transfer using fallowing as the exclusive conservation measure. Fallowing could be either rotational fallowing or non-rotational fallowing or a combination of the two. Rotational fallowing would be consistent with existing agricultural land uses and would not result in the reclassification of any prime or statewide important farmlands; therefore there would not be any impact to agriculture resources. However, non-rotational fallowing could be used to conserve water for transfer; therefore, the worst case impact of the Proposed Project would be to fallow up to 50,000 acres of land on a non-rotational basis. This represents up to 11 percent of the total net acreage in agricultural production within the IID water service area. Assuming all acreage was non-rotationally fallowed this would represent a significant, unavoidable impact to the agriculture resources in the IID water service area. (Significant, unavoidable impact.)

**Mitigation Measure A4-AR-1:** The only way to avoid or minimize this impact is to prohibit the use of non-rotational fallowing under this Alternative. Otherwise, no mitigation measures have been proposed to avoid or minimize this impact.

##### Salton Sea Habitat Conservation Strategy (HCP-SS)

**Impact A4-HCP-SS-AR-2: Conversion of 30,500 acres of agricultural lands from implementation of the Salton Sea Habitat Conservation Strategy.** Implementation of the Salton Sea Habitat Conservation Strategy under Alternative 4 could result in the fallowing of up to an additional 30,500 acres (beyond that required for generating water for transfer) of agricultural lands within the IID water service area if fallowing within the IID water service area is used as the sole method of providing mitigation water. This would represent approximately 6 percent of the net acres in production in the IID water service area. Fallowing to conserve water for mitigation would be limited to rotational fallowing where lands are fallowed for fewer than four consecutive years. Implemented under these conditions, fallowing would not convert farmland or lead to the rezoning of agricultural lands to nonagricultural uses. (Less than significant impact.)